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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/076,516	02/19/2002	Yoshihisa Yonezawa	YONE3009/EM	3425
23364	7590	03/17/2005	EXAMINER	
BACON & THOMAS, PLLC 625 SLATERS LANE FOURTH FLOOR ALEXANDRIA, VA 22314			DONG, DALEI	
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Please find below and/or attached an Office communication concerning this application or proceeding.

2 ✓

Office Action Summary	Application No. 10/076,516	Applicant(s) YONEZAWA ET AL.	
	Examiner Dalei Dong	Art Unit 2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5-10, 12-15, 17-29 and 34 is/are pending in the application.
- 4a) Of the above claim(s) 18-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-10, 12-15, 17, 25-29 and 34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-3, 5-10, 12-15, 17, 25-29 and 34 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,509,693 to Yonezawa.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention “by another,” or by an appropriate showing under 37 CFR 1.131.

Regarding to claim 1, Yonezawa discloses in Figure 5, an electron tube, comprising: at least one metal film (filament driving wiring layer 17) formed on a base (anode substrate 33); at least one linear member (wire body 2) provided above the base (33); and at least one additional member (metal foil 18) for connecting one end of (welded section 5) of the at least one linear member (2) to the at least one metal film (17),

wherein the at least one additional member (18) is welded (laser welding) to a portion of the at least one metal film (17), the one end (5) of the at least one linear member (2) being disposed between the at least one additional member (18) and the at least one metal film (17), and the entire portion of the at least one metal film (17) being in direct contact with the base (33).

Regarding to claim 2, Yonezawa discloses in Figure 5, the at least one additional member (18) is at least one metal piece, and on the condition of interposing the at least one linear member (2) between the at least one metal piece (18) and the at least one metal film (17), the at least one linear member (2) is fixedly attached to the at least one metal film (17) by welding the at least one metal piece (18) to at least one metal film (17) (see column 8, lines 26-30).

Regarding to claim 3, Yonezawa discloses in Figure 5, the at least one additional member (18) is independently provided to the at least one linear member (2).

Regarding to claim 5, Yonezawa discloses in Figure 5, an electron tube, comprising: at least one metal film (wiring layer 17) formed on a base (anode substrate 33); at least one linear member (wire body 2) provided above the base (33) and divided into a body portion (2) and a fixture portion (welded sections 5) for fixedly attaching the body portion (2) to the at least one metal film (17), and at least one additional member (metal foil 18) for fixedly connecting the fixture portion (5) to the at least one metal film

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(5), wherein the at least one additional member (18) is welded (laser weld) to the at least one metal film (17), the distance between the fixture portion (5) of the at least one linear member (2) and the base (33) or the distance between the at least one additional member (2) and the base (33) being not greater than the thickness of the at least one metal film (17).

Regarding to claim 6, Yonezawa discloses in Figure 5, the at least one linear member (2) is a grid and the at least one metal film (17) is a grid electrode.

Regarding to claim 7, Yonezawa discloses in Figure 5, the at least one linear member (2) is a grid having a first and a second metallic member, and the second metallic member of the grid is the at least one additional member (18).

Regarding to claim 8, Yonezawa discloses in Figure 5, the at least one linear member (2) is a grid having a metallic member and an insulating member.

Regarding to claim 9, Yonezawa discloses in Figure 5, the at least one linear member (2) is a cathode, and the at least one metal film (18) is a cathode electrode.

Regarding to claim 10, Yonezawa discloses in Figure 5, the at least one linear member (2) serves to support a cathode, a grid or a getter.

Regarding to claim 12, Yonezawa discloses in Figure 5, the at least one metal film (18) is formed in a thin film.

Regarding to claim 13, the attachment of the at least one linear member is achieved by using an ultrasonic bonding is the method of forming a the device and it is not germane to the issue of patentability of the device itself. Therefore, this limitation has not been given patentable weight. (see MPEP 2113).

Regarding to claim 14, Yonezawa discloses in Figure 5, the at least one metal film (17) and the at least one additional member (18) are made of the same metallic material (Al) to each other.

Regarding to claim 15, Yonezawa discloses in Figure 5, at least one spacer (spacer 16) for defining a distance between the at least one linear member (2) and the base (33) and the electron tube is a fluorescent radiation tube.

Regarding to claim 17, Yonezawa discloses in Figure 6, a vessel including at least two substrates (33 and 34), and the base (33) being the vessel).

Regarding to claim 25, Yonezawa discloses in Figure 5, one end (5) of the at least one linear member (5) is directly connected to the at least one metal film (17) by welding

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the at least one additional member (18) to the one end (5) of the at least one linear member (2) located on the at least one metal film (17).

Regarding to claim 26, Yonezawa discloses in Figure 5, a part (spring section 3) of the at least one linear member (2) is a tension force applying portion for exerting a tension force.

Regarding to claim 27, Yonezawa discloses in Figure 5, the tension force applying portion (3) has a coiled shape.

Regarding to claim 28, Yonezawa discloses in Figure 5, the at least spacer (16) is made of conductive material disposed on the at least one metal film (17).

Regarding to claim 29, Yonezawa discloses in Figure 5, the at least one linear member (2) is a grid and at least one metal film (17) is a grid electrode.

Regarding to claim 34, Yonezawa discloses in Figure 5, an electron tube comprising: at least one metal film (17) formed on a base (33); at least one linear member (2) provided above the base (33); and at least one additional member (18) for connecting one end of the at least one linear member (2) to the at least one metal film (17), wherein the at least one metal film (17) includes a generally flat part, the entire flat part of the at least one metal film having two opposite surfaces, the at least one additional member

being welded to one of the opposite surfaces, and the other opposite surface being substantially parallel with and in direct contact with the base (33).

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 34 is rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,811,920 to Wada.

Regarding to claim 34, Wada discloses in Figure 3A-B, an electron tube comprising: at least one metal film (4A-B) formed on a base (1); at least one linear member (2, 2A-B) provided above the base (1); and at least one additional member (3A-B) for connecting one end of the at least one linear member (2, 2A-B) to the at least one metal film (1A-B), wherein the at least one metal film (4A-B) includes a generally flat part, the entire flat part of the at least one metal film having two opposite surfaces, the at least one additional member (3A-B) being welded to one of the opposite surfaces, and the other opposite surface being substantially parallel with and in direct contact with the base (1).

Response to Arguments

5. Applicant's arguments with respect to claims 1-3, 5-10, 12-15, 17, 25-29 and 34 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following prior art are cited to further show the state of the art of composition of an electron tube.

U.S. Patent No. 6,710,536 to Yonezawa.

U.S. Patent No. 6,717,350 to Yonezawa.

U.S. Patent No. 6,798,149 to Yonezawa.

U.S. Patent No. 6,856,085 to Yonezawa.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalei Dong whose telephone number is (571)272-2370. The examiner can normally be reached on 8 A.M. to 5 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on (571)272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



D.D.

March 8, 2005



Joseph Williams
Primary Examiner
Art Unit 2879